

[0101] ABSTRACT OF THE DISCLOSURE

[0102] We have traced the detachment of photoresist during development of patterned features in the range of about 90 nm and smaller to a combination of the reduced “foot print” of the pattern on the underlying substrate and to the contact angle between the underlying substrate surface and the developing reagent. By maintaining a contact angle of about 30 degrees or greater, the detachment of the photoresist from the underlying substrate can be avoided for photoresists including feature sizes in the range of about 90 nm. We have achieved an increased contact angle between the DARC surface and a water-based CAR photoresist developer while simultaneously reducing CAR poisoning by treating the surface of the DARC after film formation.